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REMARKS

In the Office Action mailed on May 2, 2006, claims 1-50 were rejected. Applicants request reconsideration in view of the following remarks.

I. Claim Rejections – 35 USC 102

Claims 1-3, 5-6, 8-20, 22-24, 26, 27, 29-35, 37, 39, 40, and 42-49 were rejected under 35 USC 102(e) as being anticipated by U.S. Patent Pub. No. 2004/0267397 (the Doddi reference).

Independent claims 1 and 22 recite, "if the one or more termination criteria are not met, **modifying** the optimized profile model." (Emphasis added.) Independent claim 37 recites, "if one or more termination criteria are not met, the optimized profile model is **modified**." (Emphasis added.) The Examiner has cited to paragraph [0052], last four lines, and paragraph [0057], last four lines, as disclosing this claim limitation. Applicants assert that the portions of the Doddi reference cited to by the Examiner do not disclose modifying the optimized profile model if one or more termination criteria are met.

In particular, paragraph [0052] relates to training the machine learning system. As disclosed in paragraph [0052], to train the machine learning system, a profile from **a set of profiles** is used as an input to the machine learning system to generate a diffraction signal as an output of the machine learning system. The diffraction signal generated by the machine learning system is compared to a diffraction signal from **a set of diffraction signals** that corresponds to the profile that was used as the input to the machine learning system. If the difference between these diffraction signals is not within a desired or predetermined margin of error, another diffraction signal is generated using another profile from **the set of profiles**.

Note, in repeating the training process, additional profiles from the set of profiles are used. Also, the profiles in the set of profiles used as inputs to train the machine learning system were obtained prior to training the machine learning system. (See paragraph [0045].) The diffraction signals in the set of diffraction signals are also obtained prior to training the machine learning system. (See paragraph [0049].) Thus, in the training process described in paragraph [0052], an

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optimized profile model is not modified if one or more termination criteria are not met. Instead, another profile from a set of profiles, which was obtained prior to the training process, is used as another input to train the machine learning system.

Paragraph [0057] relates to testing the machine learning system. Similar to the training process, the testing process uses a set of profiles and a set of diffraction signals obtained prior to the testing process. (See paragraph [0056].) Thus, in the testing process described in paragraph [0057], an optimized profile model is not modified if one or more termination criteria are not met. Instead, another profile from a set of profiles, which was obtained prior to the testing process, is used as another input to test the machine learning system.

Thus, Applicants assert that independent claims 1, 22, and 37 are allowable over the Doddi reference. Applicants also assert that claims 2-3, 5-6, 8-20, 23-24, 26, 27, 29-35, 39, 40, and 42-49 are allowable for at least the reason that they depend from allowable independent claims.

II. Claim Rejections – 35 USC 103

Claims 4, 7, 21, 25, 28, 36, 38, 41, and 50 were rejected under 35 USC 103(a) as being unpatentable over the Doddi reference in view of U.S. Pat. Pub. No. 2004/0017575 (the Balasubramanian reference).

Applicants note that the Doddi reference is assigned to Timbre Technologies, Inc. The present application was assigned to Timbre Technologies, Inc. at the time of filing. Thus, Applicants assert that the Doddi reference can not be used as a reference under 35 USC 103. Additionally and alternatively, Applicants assert that claims 4, 7, 21, 25, 28, 36, 38, 41, and 50 are allowable for at least the reason that they depend from allowable independent claims.

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III.   Conclusion

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 509982005900. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Dated: August 2, 2006   Respectfully submitted,

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